

WHAT IS CLAIMED IS:

1. A wireless in-vivo information acquiring system comprising:  
a body-insertable device that is inserted into a body of a patient;  
and  
5 an external device that is disposed on outside of the body of the patient, wherein  
the external device includes  
a power source that outputs a power-supply signal for supplying power to the body-insertable device;  
10 a power supply signal transmitting unit that wirelessly supplies the power supply signal from the power source to the body-insertable device; and  
a control signal superposing unit that superposes a drive control signal on the power supply signal from the power source, and  
15 the body-insertable device includes  
a function executing unit that executes a predetermined function to acquire in-vivo information on the body of the patient; and  
a control signal detecting unit that detects the drive control signal superposed on the power supply signal, and controls the  
20 function executing unit based on the drive control signal detected.
2. The wireless in-vivo information acquiring system according to claim 1, wherein the external device further includes a control information input unit that outputs the drive control signal upon  
25 receiving control information on contents about controlling the function

executing unit.

3. The wireless in-vivo information acquiring system according to claim 1, wherein the body-insertable device further includes a  
5 separating unit that separates the drive control signal from the power supply signal from the external device, and supplies the drive control signal to the control signal detecting unit.

4. The wireless in-vivo information acquiring system according to  
10 claim 3, wherein the body-insertable device further includes a power accumulating unit that receives the power supply signal after the separating unit separates the drive control signal.

5. The wireless in-vivo information acquiring system according to  
15 claim 3, wherein

the power supply signal has a first frequency band,  
the drive control signal has a second frequency band that is  
different from the first frequency band, and  
the separating unit separates the power supply signal from the  
20 drive control signal by separating a signal in the first frequency band from a signal in the second frequency band.

6. The wireless in-vivo information acquiring system according to claim 2, wherein the function executing unit is a sensor that acquires  
25 in-vivo information specific to a portion to be diagnosed in the body of

the patient.

7. The wireless in-vivo information acquiring system according to claim 6, wherein

5 the function executing unit includes an imaging unit that captures an image of the portion to be diagnosed in the body of the patient,

the control information received by the control information input unit includes information on number of frames to be captured by the  
10 imaging unit per predetermined time, and

the drive control signal output from the control information input unit includes a signal for controlling the number of frames to be captured by the imaging unit per predetermined time.

15 8. The wireless in-vivo information acquiring system according to claim 7, wherein

the function executing unit includes an illuminating unit that emits light to illuminate at least the portion to be diagnosed in the body of the patient,

20 the control information received by the control information input unit includes information on emission time of the illuminating unit, and

the drive control signal output from the control information input unit includes a signal for controlling the emission time of the illuminating unit.

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9. The wireless in-vivo information acquiring system according to claim 2, wherein

the body-insertable device further includes a system controller that controls a state of power supply for driving the function executing  
5 unit,

the control information input to the system controller includes information on power to be supplied to the function executing unit by the system controller, and

the drive control signal output from the system controller  
10 includes a signal for controlling power supply by the system controller.

10. A body-insertable device comprising:

a function executing unit that executes a predetermined function to acquire in-vivo information on the body of the patient;

15 a power-supply signal receiving unit that receives a power-supply signal wirelessly transmitted from outside as a power for driving the function executing unit, the power-supply signal including drive control signal superposed;

a control signal detecting unit that detects the drive control  
20 signal superposed on the power supply signal received, and controls the function executing unit based on the drive control signal detected.

11. The body-insertable device according to claim 10, further comprising a separating unit that separates the drive control signal from  
25 the power supply signal received, and supplies the drive control signal

to the control signal detecting unit.

12. The body-insertable device according to claim 11, further comprising a power accumulating unit that receives the power supply  
5 signal after the separating unit separates the drive control signal.

13. The body-insertable device according to claim 11, wherein the power supply signal has a first frequency band, the drive control signal has a second frequency band that is  
10 different from the first frequency band, and the separating unit separates the power supply signal from the drive control signal by separating a signal in the first frequency band from a signal in the second frequency band.

15 14. The body-insertable device according to claim 10, wherein the function executing unit is a sensor that acquires in-vivo information specific to a portion to be diagnosed in the body of the patient.

20 15. The body-insertable device according to claim 14, wherein the function executing unit includes an imaging unit that captures an image of the portion to be diagnosed in the body of the patient,

control information received by a control information input unit of an external device includes information on number of frames to be  
25 captured by the imaging unit per predetermined time, and

the drive control signal output from the control information input unit includes a signal for controlling the number of frames to be captured by the imaging unit per predetermined time.

- 5    16.    The body-insertable device according to claim 15, wherein  
the function executing unit includes an illuminating unit that emits light to illuminate at least the portion to be diagnosed in the body of the patient,

the control information includes information on emission time of  
10 the illuminating unit, and

the drive control signal output from the control information input unit includes a signal for controlling the emission time of the illuminating unit.

- 15    17.    The body-insertable device according to claim 10, further comprising a system controller that controls a state of power supply for driving the function executing unit, wherein

control information input to the system controller includes information on power to be supplied to the function executing unit by  
20 the system controller, and

the drive control signal output from the system controller includes a signal for controlling power supply by the system controller.

18.    An external device comprising:  
25        a power source that outputs a power-supply signal for supplying

power to a body-insertable device that is inserted into a body of a patient to execute a predetermined function;

a control signal superposing unit that superposes a drive control signal for controlling the predetermined function of the body-insertable device on the power supply signal from the power source; and

a power supply signal transmitting unit that wirelessly supplies the power supply signal from the power source to the body-insertable device that is inserted into the body, the power-supply signal including the drive control signal superposed.

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19. The external device according to claim 18, further comprising a control information input unit that outputs the drive control signal upon receiving control information on contents about controlling a function executing unit of a body-insertable device.

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20. The external device according to claim 18, wherein the power supply signal has a first frequency band, and the drive control signal has a second frequency band that is different from the first frequency band.

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